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Georgics 2.458–542: Virgil, Aratus and Empedocles¹

Damien Nelis

felix qui potuit rerum cognoscere causas
atque metus omnis et inexorabile fatum
subiecit pedibus strepitumque Acherontis avari :
fortunatus et ille deos qui novit agrestis
Panaque Silvanumque senem Nymphasque
sorores.

- ¹ In his discussion of the famous double *makarismos* of *Georgics* 2.490–4, Philip Hardie writes: « one wonders whether Virgil is deliberately exploiting an Empedoclean passage »². More recently, again in relation to the closing section of the second book of the *Georgics*, Alex Hardie has written that « the possibility arises that Vergil too is indebted to an Empedoclean hinterland. »³ One of the main issues in discussion of the closing section of the second book of the *Georgics* has been the identities masked behind the words *felix qui* and *fortunatus et ille*. Some argue that the *felix qui* must refer to Lucretius. Others disagree and see no specific reference to an individual. Richard Thomas, for example, argues forcefully against those who emphasize the influence of the *De Rerum Natura* here,⁴ whereas Monica Gale sees in these lines a specific contrast between « archaic, Hesiodic piety and Lucretian science ».⁵ The purpose of this paper is not to attempt to resolve this contentious issue, but to follow up the suggestion of both Philip and Alex Hardie and to argue that Empedocles is an important model for the whole closing section of *Georgics* 2. Indeed, both Thomas and Gale may believe that my argument (if they allow it any credence whatsoever) lends support to their view. The former may suggest that if there is significant Empedoclean influence on the passage, then he is correct in minimizing Lucretian elements in order to focus on the tradition of scientific didactic as a whole. The latter could respond that given the direct and pervasive influence of Empedocles on the *De Rerum Natura*,⁶ she is correct to promote the role of Lucretius as Vergil's primary source. I have argued elsewhere that in these lines Vergil draws attention to the issue of the wider literary traditions within which the *Georgics* may be read and to the place of the

Georgics in his literary career as a whole.⁷ This paper represents a further attempt to make some sense of the dense and complicated passage which brings book 2 to a close.

- 2 Vergil's use of *felix qui* and *fortunatus et ille* obviously belongs in a long and complex tradition, but in any discussion of his *makarismos*, Empedocles fr. 4 should not be ignored:⁸

blessed is he who obtained wealth in his divine thinking organs and wretched is he to whom belongs a darkling opinion about the gods.

- 3 These lines are probably closely connected with fr. 5:

There is no dissension nor unseemly battle in (his) limbs
and fr. 6, a passage in praise of Pythagoras:⁹

There was among them a man of exceptional knowledge, who indeed obtained the greatest wealth in his thinking organs, master of all kinds of particularly wise deeds; for whenever he reached out with all his thinking organs he easily saw each of all the things which are in ten or twenty human lifetimes.

- 4 These lines certainly influenced Lucretius' praise of his master Epicurus,¹⁰ and so, as Hardie suggests, Vergil, as he alludes to his predecessor(s), may recall Empedocles' and Lucretius' praise of their famous predecessors.¹¹ As always, of course, we are hampered by the fragmentary nature of the text of Empedocles and the provisional nature of any attempt at reconstructing the order of the fragments. Nevertheless, Vergil's line 493, *fortunatus et ille deos qui novit agrestis*, certainly looks like an inversion of Empedocles fr. 4.2: δειλὸς δ' ὃ σκοτόεσσα θεῶν πέρι δόξα πέμνηεν ('and wretched is he to whom belongs a darkling opinion about the gods.') Both poets almost certainly have in mind Hesiod, *Works and Days* 826f: τᾶων εὐδαίμων τε καὶ ὄλβιος ὃς τὰδε πάντα/ εἰδὼς ἐργάζεται ἀναίτιος ἀθανάτοισιν ('That man is happy and lucky who knows all these things and does his work without offending the deathless gods'; trans. Evelyn-White, adapted).¹² Hardie, therefore, may be on the right track in suggesting that Empedocles underpins Vergil's argument, but is there any clear evidence for widespread Empedoclean influence on the closing section of *Georgics* 2? The tripartite argument which follows is intended to demonstrate that there is. I am well aware of the uncertain nature of the argument at many points, but I would suggest that there are enough hints to make the question worth asking and the attempt to answer it worthwhile.

1. Discordia

- 5 Discord enters Latin literature, insofar as we can tell, at Ennius 225f (Sk), a fragment from *Annales* 7:

postquam Discordia taetra
belli ferratos postes portasque refregit.

- 6 This image must be put in the context of 220f (Sk):

corpore tartarino prognata Paluda virago
cui par imber et ignis, spiritus et gravis terra.

- 7 We have here a picture of Ennius' *virago* Discordia as modelled on Empedocles' *Neikos*, or Strife.¹³ The historical situation seems to be the year 241 BC and the revolt of Falerii, provoking the re-opening of the *lanus Geminus*, which had been closed at the end of the First Punic War.¹⁴ That Vergil knew and appreciated the power of Ennius' narrative is shown by the way in which he reworks it in *Aeneid* 7, where Juno and Allecto provoke discord (*en, perfecta tibi bello discordia tristi*, *Aen.* 7.545) in Italy.¹⁵ In our passage, in praising peaceful country life, Vergil states that farmers are lucky to live *procul discordibus armis* (

Geo. 2.459). Soon after, at line 495f, again in praise of country life and referring directly back to the words *fortunatus et ille...*, he writes:

illum non populi fascēs, non purpura regum
flexit et infidos agitans **discordia** fratres.

- 8 On the face of it, there is nothing in particular to suggest a close relation to Ennius' personified Discord nor to its Empedoclean model, but the parallel may for the moment be noted, and in due course some further evidence may suggest the presence of an Empedoclean intertext.¹⁶

2. Blood

- 9 At *Georgics* 2.475-82 the poet asks to be initiated by the Muses and taught the secrets of the workings of the universe. He is however not entirely confident of success, and so goes on in lines 483-6:

sin, has ne possim naturae accedere partis,
frigidus obstiterit **circum praecordia sanguis**
rura mihi et rigui placeant in vallibus amnes,
flumina amem silvasque inglorius.

- 10 The standard commentaries compare line 484 with Empedocles fr. 96:

for men's understanding is blood around the heart.
αἷμα γὰρ ἄνθρωποις περικάρδιόν ἐστι νόημα

- 11 The idea that blood and intellect are connected is common, but a number of sources trace this idea directly back to Empedocles, and this is generally accepted as a clear allusion to him on Vergil's part.¹⁷ It is noteworthy therefore that this line comes immediately after the expression of his desire for knowledge of the workings of nature, including the phases of the moon and the movements of the sea (478-80):

defectus solis varios lunaeque labores ;
unde tremor terris, qua vi maria alta tumescant
obicibus ruptis rursusque in se ipsa residunt,

- 12 Line 478 is Lucretian; compare *DRN* 5.751, *solis item quoque defectus lunaeque latebras* ; and the words *unde tremor terris* look back to *DRN* 6.287 and 577. Lines 479-80 pose a problem, however: do they refer to tides, or to storms or to tidal waves following an earthquake? Servius says it is tides; Thomas thinks it is mainly tidal waves, but that normal tidal movements are implicitly present.¹⁸ Mynors is uncertain, but notes that the word *obicibus* is a reference to the belief that some kind of barrier kept the sea in place.¹⁹ Discussions of the sun and moon and their movements are common in early Greek philosophy, and we know that Empedocles dealt with such matters in some detail (fr. 47-54). Further confirmation that he did so comes from a perhaps unlikely source, Horace, *Epistles* 1.12.12-20:

Miramur, si Democriti pecus edit agellos
cultaque, dum peregre est animus sine corpore uelox,
cum tu inter scabiem tantam et contagia lucri
nil paruum sapias et adhuc sublimia cures,
quae mare compescant causae, quid temperet annum,
stellae sponte sua iussaene uagentur et errent,
quid premat obscurum lunae, quid proferat orbem,
quid uelit et possit rerum concordia discors,
Empedocles an Stertinium deliret acumen ?

- 13 Horace's passage only makes sense if he has in mind Empedocles' discussion of tides and the phases of the moon: is it Empedocles or the Stoic Stertinius who is talking nonsense about these topics?²⁰ Horace raises the issue of the forces which appear to hold the sea in place in the words *quae mare compescant causae*. Intriguingly, fr. 60 of Empedocles reads as follows:

Its (the sea's) ferocious edge keeps swelling, as when swamps absorb the floating hail. For all the moisture on earth tends to be driven into its hollows, being forced by the constant whirls of the wind, by the strongest bond as it were.

- 14 Our only source for this fragment is an Armenian translation of Philo's *On Providence*,²¹ but it seems clear that Empedocles discussed the forces which hold the sea in check, and the 'swelling' provides a parallel for Vergil's use of *tumescant*. Given the clear allusion to Empedocles in line 484, it is surely reasonable to suggest that Empedocles may loom large in the preceding prayer for knowledge about natural philosophy requested by the poet in lines 475-82, especially when we know that he dealt with the subjects there mentioned. Much of the language in these lines is Lucretian in manner,²² but Empedocles is a key poetic model of Lucretius, and at the very least double or two-tier allusion to both models may be operative.²³

3. The golden age

- 15 *Georgics* 2 comes to a close with a rousing passage in praise of country life, in which Vergil, in memorable lines tinged with images and reflections of the Golden Age, celebrates hard work, family, piety, festivity and peace, before concluding (532-40):

hanc olim veteres vitam coluere Sabini,
hanc Remus et frater ; sic fortis Etruria crevit
scilicet et rerum facta est pulcherrima Roma,
septemque una sibi muro circumdedit arces.
ante etiam sceptrum Dictaei regis ante
impia quam caesis gens est epulata iuvenis,
aureus hanc vitam in terris Saturnus agebat ;
necdum etiam audierant inflari classica, necdum
impositos duris crepitare incudibus ensis.

- 16 The final word, *ensis*, resoundingly confirms that the Golden Age is indeed a thing of the past and that the poet and his readers inhabit the age of iron and a time of war. From Servius on, the commentators note that line 537, *impia... caesis gens est epulata iuvenis*, resembles Aratus, *Phaenomena* 132, *πρῶτοι δὲ βοῶν ἐπασντ' ἄροτήρων*, 'the first to taste the flesh of ploughing oxen', a line occurring in a passage (129-36) which, following on a description of the Golden Age in lines 108-114, describes the coming of an age of bronze. The two Aratean passages are as follows (108-114):²⁴

At that time **they** still **had no** knowledge of painful strife (νείκεος) or quarrelsome conflict or **noise of battle** (κυδοιμοῦ), but lived just as they were; the dangerous sea was far from their thoughts, and as yet no ships brought them livelihood from afar, **but** oxen and ploughs and **Justice** herself, **queen** of the people and giver of civilised life, provided all their countless needs. That was as long as the earth still nurtured the Golden Age.

and (129-36):

But when these men also had died and there were born the Bronze age men, more destructive than their predecessors, who were the first to forge the criminal sword for murder on the highways, **and the first to taste the flesh of ploughing oxen**

(πρῶτοι δὲ βοῶν ἐπάσαντ' ἀροτήρον), then Justice conceiving a hatred for the generation of these men, flew up to the sky and took her abode in that place, where she is still visible to men by night as the Maiden near conspicuous Bootes.

- 17 Given that the famous description of the departure from earth of Justice is imitated by Vergil at *Georgics* 2.473f (*extrema per illos/ Iustitia excedens terris vestigia fecit*), he clearly has Aratus in mind at the end of book 2.²⁵ Both texts mark the eating of bulls as a key element of the fall from the Golden Age, a decline which also leads to war. But Aratus in turn has in mind an Empedoclean description of the Golden Age.²⁶ With these two passages of Aratus compare fr. 122:

They had no Ares or Battle-Din (Κυδοιμός)
nor Zeus the king nor Kronos nor Poseidon;
but Kupris the queen (Aphrodite)...

...
her they worshipped with pious images,
painted pictures and perfumes of varied odours,
and sacrifices of unmixed myrrh and fragrant frankincense,
dashing onto the ground libations of golden honey

...
(her) altar was not wetted with the unmixed blood of bulls,
but this was the greatest abomination among men,
to tear out their life-breadth and eat their goodly limbs.

- 18 Again, the eating of bulls, war and the end of the Golden Age are inextricably linked. Clearly related also is another reference to the killing of animals for food in Empedocles fr. 124.5-6:

Woe is me! That the pitiless day did not destroy me before I devised with my claws
terrible deeds for the sake of food.
οἴμοι, ὅτ' οὐ πρόσθεν με διώλεσε νελεὲς ἦμαρ πρὶν χηλαῖς σχέτλι' ἔργα βορᾶς
περιμητίσασθαι

- 19 This fragment is preserved by Porphyry's *De Abstinencia* 2.31, p. 161.13-20 (Nauck) whose text provides us with:

Woe is me! That the pitiless day did not destroy me before I contrived terrible deeds
of eating with my lips.
Οἴμοι, ὅτ' οὐ πρόσθεν με διώλεσε νελεὲς ἦμαρ πρὶν σχέτλι' ἔργα βορᾶς περὶ
χείλεσι μητίσασθαι

- 20 Fortunately, we can now compare the new Strasbourg papyrus of Empedocles (d5-6) which offers the improved text translated above.²⁷ In all three poets we find linked the fall from a Golden Age, slaughter of oxen and war. And all three have in mind Hesiod, *Works and Days* 140-55.

- 21 Clearly, Vergil is working within a many-layered tradition here, but further details confirm the importance of the specifically Empedoclean background. At *Georgics* 2.475-7 Vergil prays to the Muses:

me vero primum dulces ante omnia Musae,
quarum sacra fero ingenti percussus amore
accipiant caelique vias sidera monstrent

- 22 Commentators note that these lines allude to Aratus, *Phaenomena* 16-18:²⁸

And hail, muses, all most gracious. In answer to my prayer to tell of the stars in so
far as I may, guide all my singing.

Χαίροιτε δὲ Μοῦσαι,
Μειλίχιαι μάλα πᾶσαι· ἐμοίγε μὲν ἀστέρας εἰπεῖν ἦ
Θέμις εὐχομένῳ τεκμήρατε πᾶσαν ἀοιδήν.

- 23 And once again, Aratus is imitating Empedocles; compare fr. 10.3f: ²⁹
 answer my prayers again now, Calliope, as I reveal a good discourse about the
 blessed gods.
 Εὐχημέν ὦ νῦν αὖτε παρίστασο, Καλλίοπεια,
 ἄμφι θεῶν μακάρων ἄγαθὸν λόγον ἐμφαίνοντι.
- 24 Certainly the Aratus passage is closer to Vergil's, as are Lucretius, DRN 1.19, *omnibus incutiens blandum per pectora amorem*, and 924f, *et simul incussit suavem mi in pectus amorem/Musarum*. But there is yet more allusion to be teased out in these verses.
- 25 The use of the word *accipiant* in line 477, as A. Hardie has recently demonstrated, recalls ὑπεδέξατο at Parmenides fr. 1.22, where the goddess receives the poet before speaking to him about the 'way of truth'.³⁰ Vergil's *caeli vias* thus contain reference to the 'way' of Parmenides. Peter Knox³¹ has shown that this very same Parmenidean scene and image influence the opening of Lucretius, DRN 6.24–28, a passage in praise of Epicurus which is in Vergil's mind (cf. *viam monstravit* and *vias... monstrent* at *Georgics* 2.477) as he seeks to know the way and praises his illustrious predecessor(s) who had knowledge of the *rerum causae* :
 veridicis igitur purgavit pectora dictis
 et finem statuit cuppedinis atque timoris
 exposuitque summum bonum quo tendimus omnes
 quid foret, atque viam monstravit, tramite parvo
 qua possemus ad id recto contendere cursu,
- 26 At this point, positioning becomes crucially important. We are here at the beginning of Parmenides' *On Nature* and of DRN 6, a passage in praise of Epicurus which corresponds closely to a similar passage near the beginning of DRN 1. Lines 17–18 of the *Phaenomena* quoted above close Aratus' prologue. Furthermore, Inwood's fr. 10 (it is numbered 3 by Wright but 131 in Diels-Kranz), with its mention of the Muse Calliope, probably occurs very early in Empedocles' *On Nature*.³² In fact, it almost certainly occurs in the first 230 verses of the poem, as one of the lines of the new papyrus is numbered 300,³³ and the poet's prayer to the Muses fits well before his first exposition of the cosmic cycle.³⁴ Empedocles, as we have already seen, also praises his master Pythagoras early in his poem³⁵ and of course often writes in direct reaction to his great predecessor Parmenides,³⁶ whose prologue Lucretius and Vergil are adapting, as Knox and A. Hardie have demonstrated. Furthermore, Inwood's fr 124 on the Golden Age, quoted above, in fact probably comes from the proem of Empedocles.³⁷ It is noteworthy also that the hymn to Zeus which opens Aratus' *Phaenomena* is modelled on the hymn to Zeus which opens Hesiod's *Works and Days*, and that Empedocles, following the example of Hesiod, may have opened his poem with a hymn to Aphrodite, which was probably the model for Lucretius' hymn to Venus at the start of DRN 1.³⁸ So a chain of allusion involving Hesiod, Parmenides, Empedocles, Aratus, Lucretius and Vergil is by no means out of the question. Indeed, I would suggest that there is enough evidence to propose that the closing section of *Georgics* 2, with its emphasis on natural philosophy and its handling of the themes of revelation and initiation, special knowledge and poetry, as Vergil looks forward to new poetic themes, owes a great deal to the proem of Empedocles' *On Nature*, as well as drawing on the other prologues in the tradition just outlined.³⁹
- 27 As we have seen, the close of *Georgics* 2 refers on several occasions to features traditionally associated with the Golden Age. A series of verbal parallels with *Eclogue* 4 looks suggestive for the importance of this theme.⁴⁰

2.460 fundit tellus	39 feret tellus
2.474 Iustitia excedens	6 redit Virgo
2.475 Musae	11 Musae
2.477-82 <i>cosmology</i>	1 maiora
2.486 silvas, inglorious	2 arbusta humilesque myricae, 3 silvas, silvae
2.538 aureus Saturnus	6 Saturnia regna, 9 aurea

28 It is of course well recognised that Hesiod, Aratus and many other writers are important for Vergil's complex use of the myth of the Golden Age throughout his *œuvre*.⁴¹ At 2.473-4, the departure of *Iustitia* from the earth, is modelled directly on Aratus, *Phaenomena* 129-36, as we have already seen. But as we have also seen, this passage of Aratus has a strong parallel in Empedocles. And we can now add further Empedoclean material.

29 Lines 129-36 of Aratus recall and negate his earlier description of the Golden Age in line 108-14, a time when mankind

had no knowledge of painful strife or quarrelsome conflict **or noise of war, but** oxen and ploughs and **Justice herself queen** of the people and giver of civilized life, provided all their countless needs.

30 These lines, as we have already seen, recall Empedocles fr. 122:

They **had no** Ares or **Battle-Din**
nor Zeus the king nor Kronos nor Poseidon;
but Kupris the queen (Aphrodite)...

31 Where Empedocles had Aphrodite, Aratus has Dike.⁴² For the former, mankind lives in the time of the gradual waning of Love and of growing Strife, an idea which must have influenced Aratus' image of the departure of Justice.⁴³ After her withdrawal comes the Silver Age, until the Bronze Age brings war and the eating of oxen. For Vergil then, the references to war which bring *Georgics* 2 to a close are a crucial element in his double-allusion to Empedocles and Aratus. Given the thematic unity of the closing section as a whole, lines 539-40,

necdum etiam audierant inflari classica, necdum
impositos duris crepitare incudibus ensis

must pick up the reference to war in the mention of *discordia* (496) and *discordibus armis* (459) earlier in the passage,⁴⁴ thus giving Vergil's meditation on civil war at the close of book 2 an Aratean and Empedoclean reference.⁴⁵ This *discordia* of civil war at the end of *Georgics* 2 is, in the wake of Ennius *Annales* 7, modelled directly on Empedoclean Neikos. It is noteworthy, therefore, that Alex Hardie has recently emphasized the key role played by the idea of *concordia* in the very same passage. He has shown how Vergil aspires to knowledge of the harmonious workings of nature, but how the intellectual concord and the knowledge of the secrets of natural philosophy he so desires are threatened by forces of discord, in the form both of the possibility of his inability to master such knowledge and of the bitter civil wars which he had known almost all his life.⁴⁶ By the opening of *Georgics* 3, of course, civil wars have been brought to an end by Octavian (*victorisque arma*

Quirini, 3.27), bringing the prospect of peace and *concordia*, and Vergil is looking for a new way to celebrate his achievements in doing so (*Geo.* 3.8f):

temptanda via est, qua me quoque possim
tollere humo victorque virum volitare per ora.

- 32 That new way leads beyond Ennius' *Annales* and Callimachus' *Aetia* to the *Aeneid*, a poem in which Empedoclean concord and discord loom large, as Vergil traces the history of Rome's *imperium* within the widest possible setting, that of the workings of the cosmos as a whole. Little wonder then that when Vergil is looking forward to new poetic directions in the middle of the *Georgics*, Empedocles' *On Nature* is very much on his mind.⁴⁷

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NOTES

1. I would like to thank Alessandro Barchiesi, Gordon Campbell, Alain Deremetz, Jacqueline Fabre-Serris, Joe Farrell, Monica Gale and the audiences in Lille and Philadelphia, where versions of this paper were first read.

2. (1986) 39 n.17. Cf. Putnam (1979) 147, Hardie (1998) 29, 31, and for the wider picture see Farrell (1991) 275-324, Hardie (1995). Putnam (1979), Ross (1987), Morgan (1999) and Gale (2000) contain highly relevant discussion and are key contributions to our understanding of the work as a

whole; on my reading of the poem, important aspects of their arguments and findings can be given a specifically Empedoclean ‘spin’.

3. (2002) 205.

4. (1988) on 2.475–94, 477–82.

5. (2000) 11; see also 42f for further discussion and bibliography.

6. See Sedley (1998).

7. Nelis (forthcoming); on the importance of readers and reception see Barchiesi (1982); see also Putnam (1979) 142–64 for an insightful reading of the passage as a whole, and also Kronenberg (2000), with full bibliography.

8. In general see Gladigow (1967), and on the background of the mysteries and religious revelation see now A. Hardie (2002). I use Inwood (2001) for the text and translation of Empedocles; like him, and Osborne (1987), (2000), I believe that Empedocles’ *On Nature* and *Purifications* are the same poem; for discussion see Obbink (1993) 56 n.15, Sedley (1998) 3–8. On the *Purifications* as a separate work see most recently Bollack (2003). I will quote the Greek only where particular points of detail are crucial to the argument. Inwood’s fragments 4, 5 and 6 are numbered 132, 27a and 129 respectively in Diels-Kranz (1951, 6th ed.), and 95, 98 and 99 in Wright (1981); this relocation of the fragments will be important at a later stage in my argument. Bollack (2003) 88–93 restores all three fragments to the *Purifications*. For an interesting attempt to present Euripides as a key model see La Penna (1995).

9. Riedweg (2002) 75f.

10. See Sedley (1998) 29f. On Lucretius and Empedocles see also Obbink (1993) 51 n.3, Gale (2001), who sees a pun on the latter’s name at *DRN* 1.118f, and Sedley (2003). Note however the caution of Harrison (2002).

11. (1986) 39 n.17. On Empedocles and Pythagoras see Kingsley (1995), Huffman (1999) 75–8, Riedweg (2002) 75f, Bollack (2003) 11f.

12. For Vergil’s debt to Hesiod here see Schiesaro (1997) 86f. In general on Empedocles and Hesiod see Hershbell (1970) and also Most (1999). Cf. here in particular the emphasis on happiness and knowledge which links all three texts: ὀλβιος ὄς... εἰδὼς (*Op.* 826f), ὀλβιος ὄς... εἰδὼς (Empedocles fr. 4.1–6.1); *fortunatus... qui... novit...* (*Geo.* 2.493). On the use of the language of religious initiation and revelation see P. Hardie (1986) 39f, Gale (2000) 9, A. Hardie (2002).

13. Skutsch (1985) 394, 403. On Ennius and Empedocles see also Hardie (1995) 209f, Nelis (2000) 90f.

14. Skutsch (1985), 393f.

15. Norden (1915) 10–40; on Empedocles in the *Aeneid* see Nelis (2000), (2001) 96–112, 289, 345–59.

16. Note however the presence of dissension (στάσις) and battle (δῆρις) in Empedocles fr. 5, which may have followed very closely on the ὀλβιος ὄς... of fr. 4. Vergil’s *fortunatus... qui... discordia* in lines 493–6 may refer directly to ὀλβιος ὄς... στάσις... δῆρις; Empedocles here employs a metaphor linking knowledge with harmony and ignorance with strife, a metaphor which Vergil may be realising with the real *discordia* of war. Ennius certainly becomes a key model in the opening lines of *Georgics* 3, so, given the close links between the end of book 2 and the prologue of book 3, his presence may be suspected at the close of the second book; on the importance for Vergil of Ennius’ use of Empedoclean natural philosophy in the *Annals* see Hardie (1986) 33–84; more generally, see also Hardie (1995), Nelis (2000), (forthcoming).

17. See Thomas (1988) ad loc., Mynors (1990) ad loc., Gale (2000) 42 n.72, A. Hardie (2002) 204.

18. (1988) ad loc. Schiesaro (1997) 83 argues for sea-tides.

19. (1990) ad loc.

20. On this passage in relation to *Georgics* 2 see La Penna (1995) 326f.

21. See Inwood (2001) 236, 242.

22. See Gale (2000) 42 n.71.

23. On Lucretius and Empedocles see n. 10 above.

24. The translations of Aratus are by Kidd (1997).
25. See Gale (2000) 38–42. More generally on Aratus in the allusive patterns of the *Georgics* see Farrell (1991).
26. See Kidd (1997) on 108, Martin (1998) ad 105–107. On Aratus and Empedocles see Traglia (1963).
27. On the textual issues see Martin and Primavesi (1998) 291–302.
28. See Gale (2000) 42 n.71.
29. See Kidd (1997) on 18. One small further detail may hint an Empedoclean source for Aratus. The phrase τεκμήρατε πᾶσαν ἀοιδίην = ‘guide all my singing’, is a little odd. As Kidd notes, the verb in the active sense of ‘show by a sign’ is post-homeric and rare. Its use here of a song about the stars, ἀστέρας, in line 17 may perhaps bring to mind *Arg.* 1.499, where Orpheus sings how in the sky the stars have a fixed path, τέκμαρ ἔχουσιν/ἄστρα. Apollonius has just described how deadly strife separated earth, heavens and sea – strife of course being Empedoclean strife, as the ancient scholiast already noted. In Apollonius too the context is Empedoclean therefore. Furthermore, if ἔμπεδον at *Arg.* 1.499 does allude to the name of Empedocles (see Hunter (1993) 163 n.41, Gale (2001) 169 n.5) then ἔμπεδα at Aratus 13 (note ἄρρητον=Aratus? at *Phaenomena* 2 and Kidd (1997) ad loc.) may do likewise; see Obbink (1993) 88 n.93.
30. See A. Hardie (2002) 186f.
31. (1999).
32. See Obbink (1993) 59–64.
33. See Martin and Primavesi (1998) 21f, 103f.
34. See Inwood (2001) 46.
35. This passage, as we have already seen, is the direct model for the praise of Epicurus at *DRN* 1.62–79 (see Sedley (1998) 29f) and so also underpins the parallel passage on Epicurus which opens *DRN* 6.
36. On Empedocles and Parmenides see Graham (1999), Inwood (2001) 24–49.
37. See Sedley (1998) 30. Fr. 122 should also perhaps be seen as part of the prologue, therefore. A further argument for doing so may be Aratus’ pattern of allusion. His proem (1–18) and the section on Dike (96–136) are closely related, and the links between them are key elements in Aratus’ use of Hesiod: see Schiesaro (1996). If fragments 10, 122 and 124, all imitated in *Phaenomena* 1–18 and 96–136, all belong to the proem of the first book of the *On Nature*, then exactly the same will be true of Aratus’ use of Empedocles, and he is now doubt engaging in double or two-tier allusion, being fully aware of Empedocles’ debt to Hesiod. On Aratus, Hesiod and the didactic tradition see Hunter (1995), Schiesaro (1996), Fakas (2001), Fantuzzi and Hunter (2002) 302–22.
38. See Sedley (1998) 29f. On the hymnic opening see Obbink (1993) 59–70. Cleanthes’ *Hymn to Zeus* is also relevant here; on Hesiod, Aratus and Cleanthes see Hunter (1995).
39. The Callimachean ‘way’ of the *Aetia* prologue and the *Victoria Berenices* of *Aetia* 3 are also directly relevant here. In the former, when Callimachus favours ‘untrodden paths’, he has in mind Parmenides’ ‘way’ (see Asper (1997) 72–94, Knox (1999) 282f), and so any consideration of the Callimachean background to *Georgics* 3.1–48 must take into account this fact, and consider also the Callimachean associations of the Muses, knowledge and the *vias* at *Georgics* 2.475–7; cf. 1.41). Furthermore, the links between Callimachus and Parmenides in this context should be studied in the light of the complexity of the relationship between the *Aetia* and Hesiod’s *Theogony*, on which see Fantuzzi and Hunter (2002) 71–81, Harder (2003) 302. Note also Knox (1999) on Lucretius–Callimachus–Parmenides, and Farrell (1991) 291–314 on Vergil–Callimachus–Empedocles, and on Callimachus and Empedocles see Bing (1981), Asper (1997) 73, 112, 118; and on Empedocles and the image of the ‘way’ see Nünlist (1998) 237, 259; it is relatively easy therefore to write Callimachus into the complex literary tradition of philosophical and didactic

poetry Vergil is tracing at the end of *Georgics* 2. I will pursue this topic elsewhere, but note already Farrel (1991) 291-324, Morgan (1999) 17-40.

40. Cf. *Geo.* 2.460 *fundit tellus* and *Ecl.* 39 *feret tellus*; 2.474 *Iustitia excedens* and 4.6 *iam redit et Virgo*; 2.486 *silvas, inglorius* and 4.2 *arbusta humilesque myricae*, 4.3 *silvas, silvae*; 2.538 *aureus Saturnus* and 4.6 *Saturnia regna*, 4.9 *aurea*.

41. See P. Hardie (1998) 124 s.v. Golden Age.

42. See Martin (1998) on 105-107.

43. Aratus also has in mind of course the departure of *Aidos* and *Nemesis* at Hesiod, *Works and Days* 197-201.

44. Cf. Putnam (1979) 160f.

45. It may be interesting to note in this context a remark of Diogenes Laertius, *Lives* 8.72: 'Neanthes of Cyzicus, who also wrote about Empedoclean questions, says that after Meton died a tyrannical rule began to emerge; but then Empedocles persuaded the citizens of Acragas to stop their civil strife and cultivate political equality.' The information need not be true, but a political reading of Empedocles may have been natural for Vergil, and a context of 'civil strife' will of course have been particularly relevant.

46. (2002) 200-6.

47. See Cairns (1989) ch. 4, Nelis (2001) 96-112, 345-59. On *concordia* generally see Richard (1963).

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